

Response to Office Action dated July 3, 2006
U.S. Application No. 10/679,541
Our Ref. 6175-059

Remarks

This application has been reviewed in light of the Office Action dated July 3, 2006. Claims 7 –11, 29 – 46 are pending in this application. Claims 7, 29, 39 and 43 have been amended to define still more clearly what Applicants regard as their invention. Claims 7, 29, 39 and 43 are in independent form. Favorable reconsideration is respectfully requested.

The drawings have been objected under 37 C.F.R. 1.83 (a). The Examiner specifically required a showing that the first and second drawing layouts occur in the same window. Applicants have amended the drawings by including a new drawing, Fig. 21, under 37 C.F.R. 1.121. (d) to better describe the features of the invention. Support for the new drawing can be found, for example, on page 11, line 11 to page 12, line 2 of the specification and in Figs. 3, 4 and 6. No new matter has been added. Therefore, Applicants respectfully request the objection to be withdrawn.

Claims 7 –11 and 29 – 46 are rejected under 35 U.S.C. 112, first paragraph, for allegedly failing to comply with the written description requirement. Specifically, the Examiner requested Applicants to provide support for the limitation that both the first and second layout appear in the same window. Applicants respectfully submit that support for the limitation can be found, for

Response to Office Action dated July 3, 2006
U.S. Application No. 10/679,541
Our Ref. 6175-059

example, on page 3, line 2 – 12 and page 11, line 11 to page 12, line 2 of the specification.¹

Therefore, Applicants respectfully request these rejections under 35 U.S.C., first paragraph to be withdrawn.

Claims 7 –11 are rejected under 35 U.S.C. 112, second paragraph, for allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. Claim 7 has been amended to more distinctly point out and claim the subject matter which Applicants regard as their invention. Thus, the rejections under 35 U.S.C. 112, second paragraph, of Claim 7 and its dependent claims 8 – 11, are moot. Therefore, Applicants respectfully request the rejections to be withdrawn.

Claims 7 – 9, 29, 34 – 36, 39 and 42 – 43 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hanratty in view of Suzuki, U.S. Patent No. 5,428,715 (Suzuki) and in view of Sakai, U.S. Patent Application Publication No. 20060106757. Applicants respectfully traverse these rejections.

Generally, the invention discloses, for example, a virtual folding process that permits the user to place selected views near each other on a screen (see, e.g., page 11, line 11 to page 12, line 2 of the specification). The invention displays, for example, two views of an object by

¹ Applicants note that page 2 of the Preliminary Amendment filed on October 6, 2003 reflects a minor change to the above-referenced support for the limitation on page 3, lines 2 – 12 of the specification. Applicants also note that page 3 of the same Preliminary Amendment reflects the minor change to the above-referenced support for the limitation on page 11, line 11 to page 12, line 2 of the specification.

Response to Office Action dated July 3, 2006
U.S. Application No. 10/679,541
Our Ref. 6175-059

selecting a first one of the views, selecting a second one of the views, and moving at least one of the vies so that the first view is in proximity to the second view (see, e.g., page 3, lines 2 - 12 of the specification). Moreover, the first view and the second view, in proximity to each other, can be visualized in the same GUI window (see, e.g., Fig. 6).

Claim 7, as amended, recites a computer-implemented method of providing for different arrangements of a plurality of views of a three-dimensional model, the method comprising: displaying the plurality of views in a graphical user interface (GUI) window in an arrangement representing a computer-aided design first drawing layout; selecting for inclusion in a computer-aided design second drawing layout at least a first and a second view from the plurality of views in the first drawing layout; and forming the second drawing layout comprising at least the first and second selected views from the first layout; wherein the second drawing layout is formed by applying a transformation matrix to the first and second views represented in the first drawing layout and relating the views to each other by repositioning the views in the second drawing layout wherein, the first view and the second view in the second drawing layout are shown in positions with respect to each other differently than their positions with respect to each other in the first drawing layout; and wherein the first and second drawing layouts appear in the GUI window.

Hanratty teaches “techniques [which] are developed for defining an engine which has as its input two-dimensional drawing views, wherein the engine produces a three-dimensional geometric solid” *See* Abstract. Hanratty is concerned with identifying views in a single layout in order to generate a three-dimensional solid model from the two-dimensional views in the single

Response to Office Action dated July 3, 2006
U.S. Application No. 10/679,541
Our Ref. 6175-059

layout (emphasis added). Thus, Hanratty merely teaches a set of rules that allow the identification of elements within the 2D views to ascertain the 3D form defined by these elements and their corresponding relations to other elements (emphasis added).

However, Hanratty does not teach or suggest, alone or in combination, a method which allows, for example, different arrangements of a plurality of views of a three-dimensional model by selecting first and second views from a first layout, applying a transformation matrix to the first and second views and relating these views to each other by repositioning them in the second drawing layout. As a result, the first view and the second view in the second drawing layout are shown in positions with respect to each other differently than their positions with respect to each other in the first drawing layout. Moreover, Hanratty does not teach or suggest, alone or in combination, first and second drawing layouts appearing in one GUI window.

Further, the Examiner admits that Hanratty does not explicitly teach selecting specific views in a computer-aided design first drawing layout, transforming multiple views or having them transformed into a computer-aided design second drawing layout. The Examiner however cites Sakai to allegedly teach “that other layouts can be generated...such as when discussing the ‘multiple windows’ option of a view, where various versions can be selected, and/or the “before and “after” versions of a view with a transform applied can be shown (e.g., original view and view with perspective applied to it). See page 11 of the Office Action. The Examiner also admits that Hanratty fails to explicitly teach automatically arranging views within a window and resizing them. See page 12 of the Office Action. However, the Examiner also

Response to Office Action dated July 3, 2006
U.S. Application No. 10/679,541
Our Ref. 6175-059

cites Suzuki to show that “such arrangement facilitates understanding by the user, and prevents the user from needlessly having to manipulate such windows, although the user can do so if desired, and the system can compensate to maintain visibility of other windows if such occurs.” Finally, the Examiner admits that Hanratty fails to teach showing another layout in the same window but argues that Sakai teaches this limitation by way of altered views. *See* page 12 of the Office Action.

Suzuki does not teach or suggest, alone or in combination, for example, selecting first and second views, for example, from a first drawing layout and applying a transformation matrix to the first and second views in forming the second drawing layout and relating the views to each other by repositioning the views in the second drawing layout wherein the first view and second view in the second drawing layout are shown in positions with respect to each other different than their positions with respect to each other in the first drawing layout. Moreover, Suzuki does not teach or suggest, alone or in combination, first and second drawing layouts appearing in a GUI window. Rather, Suzuki merely discloses a method to provide three-dimensional figure data generator device by which two-dimensional projection figures of a three-dimensional figure can be set and displayed. *See* col. 3, line 45 to col. 4, line 16. Thus, Suzuki merely teaches a method to manufacture a physical three-dimensional object. *See* Abstract.

Further, Sakai merely teaches an electronically stored job sheet that can be accessed from any location in a factory. *See* Abstract. Moreover, Sakai teaches various viewing modes to better view two-dimensional and three-dimensional views of a sheet metal part. *See* ¶¶0023 and

0024. Additionally, Sakai teaches in Figs. 17 –22 different views of a same bend model data on a display screen. However, Sakai does not teach or suggest forming a new drawing layout, for example, a second drawing layout, which is comprised of at least the first and second views selected from a first layout, and formed by applying a transformation matrix to the first and second views from the first drawing layout and relating the views to each other by repositioning the views in the second drawing layout (emphasis added). By repositioning, the first view and the second view in the second drawing layout are shown in positions with respect to each other that are different than their positions with respect to each other in the first drawing layout. Thus, Hanratty, alone or in combination with Suzuki and Sakai, do not teach or suggest Applicants' invention. Therefore, Applicants respectfully request the rejections withdrawn and the claims allowed.

Claim 29, as amended, recites a computer-implemented method of rendering different views of a three-dimensional model, the method comprising rendering the plurality of views of the three-dimensional model in a graphical user interface window in an arrangement representing a computer-aided design first drawing layout; selecting for inclusion in a computer-aided design second drawing layout at least a first and a second view from the plurality of views in the first drawing layout in the graphical user interface window; and creating a new drawing layout by using a transformation matrix to reposition the first view and the second view to form a second drawing layout in which the first and second views from the first drawing layout occupy new positions relative to each other so as to maintain simultaneous visibility of the first and second views within a currently displayed area of the graphical user interface window.

Response to Office Action dated July 3, 2006
U.S. Application No. 10/679,541
Our Ref. 6175-059

The Examiner argues that Sakai teaches “simultaneous display” and that “windows are moved and resized when views are added and/or subtracted, and only one window is ever provided in any of those references for such transformations to occur within in the first place.” *See* page 14 of Office Action. However, Sakai does not teach or suggest, alone or in combination, for example, simultaneous visibility of the first and second views, newly repositioned in the new drawing layout (the second drawing layout) within a currently displayed area of the graphical user interface window. In contrast, Sakai teaches away from the present invention because it discloses multiple windows moved and resized. Moreover, in the present invention, the views from the first layout can be seen in the second layout on one GUI window. Therefore, Sakai, alone or in combination, does not teach or suggest Applicants’ invention as recited in claim 29, as amended. Therefore, Applicants respectfully request the rejections withdrawn and the claims allowed.

Claims 39 and 43, as amended, are apparatus claims corresponding to method Claim 29, as amended, and also are believed clearly patentable over the art cited for substantially the same reasons as those presented above with respect to Claim 29, as amended.

A review of the art of record has failed to reveal anything that, in Applicants’ opinion, would remedy the deficiencies of the art discussed above, as applied against the independent claims herein. Therefore, those claims are respectfully submitted to be patentable over the art of record. It is respectfully requested that the Examiner withdraw the claim rejections and allow the claims.

Response to Office Action dated July 3, 2006
U.S. Application No. 10/679,541
Our Ref. 6175-059

The other rejected claims in this application depend from one or another of independent Claims 7, 29, 39 and 43, as amended, discussed above and, therefore, are submitted to be patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, individual consideration or reconsideration, as the case may be, of the patentability of each claim on its own merits is respectfully requested.

Response to Office Action dated July 3, 2006
U.S. Application No. 10/679,541
Our Ref. 6175-059

Response to Interview Summary

Examiner's statement regarding the Substance of Interview in the Interview Summary states, "Applicant's representative presented various arguments with respect to the claim 7 and examiner also presented some newly located art. Applicant's representative specifically discussed the layout of different views within a layout and form new layouts together, and how the claims applied to those. Certain claim amendments were proposed and examiner submitting a new drawing illustrative of the claims (which would embody material discussed in the specification)."

Applicants note that herein contain claim amendments that better describe the claim limitations and a new drawing that more clearly points out what Applicants consider to be their invention.

Response to Office Action dated July 3, 2006
U.S. Application No. 10/679,541
Our Ref. 6175-059

Conclusions

Claims 7, 29, 39 and 43 have been amended. Claims 7-11 and 29-46 are now pending and believed to be in condition for allowance. Applicant respectfully requests that all pending claims be allowed.

Please apply any credits or excess charges to our deposit account number 50-0521.

Date: November 3, 2006

Respectfully submitted,

Chandana Rao

Chandana Rao

Reg. No. 52,510

Customer No. 27383
Telephone: (212) 878-3107